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Human-Computer Interaction

Project Title Techshop

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1. Introduction

Techshop is an innovative e-commerce platform offering a seamless online shopping experience. Built using React and Spring Boot, it ensures a responsive interface, secure user authentication, and dynamic product management to meet modern demands.

2. Installation and Setup

1. **Clone the repository:**
`git clone https://github.com/Boudynab/TechShop.git`
2. **Navigate to the project directory:**
`cd techshop`
3. **Install dependencies:**
`npm install`
4. **Start the development server:**
`npm start`
5. **Access the application:**
Open <http://localhost:5173> in your browser.

3. Core Functionalities

- **User Registration:** Create and manage accounts.
- **Product Browsing:** Explore products interactively.
- **Search and Filtering:** Discover products with advanced filters.
- **Product Comparison:** Compare multiple products.
- **Chatbot Recommendations:** Receive AI-powered product suggestions.
- **Shopping Cart:** Add and purchase items easily.

4. Features

- **Responsive Design:** Works across all devices.
- **Secure Authentication:** Protects user data.
- **AI Chatbot:** Offers personalized recommendations.
- **Dynamic Inventory:** Real-time product availability.

5. User Guide

1. **Sign Up or Log In:**
Create an account or log in for full access.
2. **Home Page:**
 - **Navigation Bar:** Access Home, Profile, Contact, and About.
 - **Recommendations:** View AI-driven suggestions.
 - **Comparison Section:** Compare products side by side.
3. **Profile Page:**
 - Manage favorites, categories, and shopping cart.

6. Background

Techshop integrates cutting-edge technologies for scalability and user-friendliness:

- **Front-End:** React for dynamic interfaces.
- **Back-End:** Spring Boot for robust server-side logic.
- **Database:** MySQL for efficient data management.
- **UI/UX Design:** Focus on usability and accessibility.

7. Tools and Technologies

- **Development Tools:** Visual Studio Code, IntelliJ IDEA.
- **Frameworks:** React, Spring Boot.
- **Database:** MySQL.
- **Testing:** Postman for API testing.
- **Design:** Figma for prototyping.
- **Version Control:** Git.

8. Challenges and Solutions

- **Front-End and Back-End Integration:** Addressed with clear API design and Postman testing.
- **Real-Time Updates:** Managed using React state management.
- **User Authentication:** Secured with Spring Security.

9. Future Enhancements

- Integration of a payment gateway.
- Advanced AI recommendations based on user behavior.
- Multilingual support for diverse audiences

10. short video tutorial

[tutorial](#)

11. References

1. **W3Schools:** [HTML, CSS, JavaScript tutorials](#)
2. **MDN Web Docs:** [Comprehensive web development resources](#)
3. **React Documentation:** [Building interfaces with React](#)
4. **Spring Boot Documentation:** [Server-side development](#)
5. **Usability Engineering:** Nielsen, J. (1994), Academic Press.